

4 arranging a set of segment IDs and a corresponding set of the digitized segments  
5 of data into a packet segment so that the segment IDs and each of the digitized segments  
6 are explicitly aligned on a boundary that facilitates efficient operation on a processor.

1 50. The method of claim 1, further comprising:  
2 prepending a local area network (LAN) header to the packet segment to create a  
3 multi-channel packet; and  
4 transmitting the multi-channel packet over a local area network (LAN).

1 51. The method of claim 1, where the channel is a voice channel, and the digitized  
2 segment of analog data represents a voice data.

1 52. The method of claim 1, where the channel is a fax channel, and the digitized  
2 segment of analog data represents a fax data.

1 53. The method of claim 1, wherein the boundary is an 8-byte boundary and the  
2 processor is a 64-bit processor.

1 54. The method of claim 1, wherein the set of segment IDs comprises four segment  
2 IDs and the corresponding set of the digitized segments comprises four corresponding  
3 digitized segments.

1 55. The method of claim 2, wherein the LAN is an Ethernet, and the LAN header is a  
2 media access control (MAC) header.

1 56. The method of claim 2, wherein the LAN is an InfiniBand ® system network.

1 57. The method of claim 2, further comprising aggregating as many packet segments  
2 into the multi-channel packet as possible so that a size of the multi-channel packet does  
3 not exceed the maximum size for the LAN.

1 58. The method of claim 3, wherein the digitized segment of voice data is at least one  
2 sample of pulse-code modulated (PCM) voice data.

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1 59. The method of claim 10, wherein the at least one sample of PCM voice data is one  
2 byte in length and represents substantially 125 microseconds of voice data.

1 60. The method of claim 10, wherein the digitized segment of voice data comprises  
2 eight samples of PCM voice data for a total of eight bytes in length.

1 61. The method of claim 1, wherein the digitized segment of data is obtained from a  
2 time-division multiplexed (TDM) stream of data.

1 62. The method of claim 1, wherein the digitized segment of data is obtained from a  
2 asynchronous transfer multiplexed (ATM) stream of data.